



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/717,630

11/21/2003

Michael Eloo

P68978US0

8614

7590

05/30/2006

JACOBSON HOLMAN
400 SEVENTH STREET, N.W.
WASHINGTON, DC 20004

EXAMINER

DANIELS, MATTHEW J

ART UNIT

PAPER NUMBER

1732

DATE MAILED: 05/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/717,630	Applicant(s) ELOO, MICHAEL	
	Examiner Matthew J. Daniels	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 and 16-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 and 16-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant withdrew the traverse of the restriction requirement on page 11 of the remarks filed 17 March 2006.

Claim Objections

2. The objection to the abbreviation of the chemical name is withdrawn in view of the claim amendments.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1732

3. **Claims 1, 2, 8, 16, 17, and 23** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over Claims 1, 5, 13, and 14 of copending Application No. 10/954,349 in view of Koreishi (USPN 5830981).

Claims 1, 16, 17, and 23 of the instant application over Claims 1 and 13 of the '349 application

Claims 1 and 13 of the '349 application claim the same steps of extruding PET into an underwater pelletizer, transporting the pellets to a dryer system using a water stream and injecting a high velocity gas in order to enhance the speed into and out of the dryer, and retaining or maintaining enough heat to initiate crystallization, as sought in Claims 1, 16, 17, and 23 of the instant application. The '349 application is different because it includes a vibrating unit or conveyor. However, dewatering machines operating at high rates of speed and carrying feedstock (as in the instant application) would inherently vibrate due to the movement of the dewatering machine itself and due to movement of feedstock through the machine. In the alternative vibrate vibrating sieves are common in the art and would have been prima facie obvious to the ordinary artisan for producing a desirable drying action. This aspect is taught by Koreishi (10:16-20). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Koreishi into the instant application in order to provide preliminary dewatering before transferring the pellets to a subsequent drying step.

Claims 2 and 8 of the instant application over Claims 5 and 14 of the '349 application

Claim 8 of the instant application appears to be a substantial duplicate of Claim 5 of the '349 application, and would therefore have been prima facie obvious for the same reasons set forth above. Claim 2 of the instant application appears to be a substantial duplicate of Claim 14

of the '349 application, and would therefore have been prima facie obvious for the same reasons set forth above.

This is a provisional obviousness-type double patenting rejection.

4. **Claim 1, 16, 17** are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 19 of copending Application No. 10/954,349. Although the conflicting claims are not identical, they are not patentably distinct from each other for the following reasons:

Claims 1, 16, and 17 of the instant application over Claim 19 of the '349 application

Claim 19 of the '349 application claim the same steps of extruding PET into an underwater pelletizer, transporting the pellets to a dryer system using a water stream and injecting a high velocity gas in order to enhance the speed into and out of the dryer, as sought in Claims 1, 16, and 17 of the instant application. The '349 application is different because it includes regulating the speed of the pellets after injection. However, the Examiner submits that any step of drying, holding, or packaging the pellets, which would have been obvious to the ordinary artisan, would regulate the speed of the pellets to 0 m/sec, rendering the claimed subject matter of the '349 application prima facie obvious.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Rejections set forth previously under this section are withdrawn in view of the agreement reached in the 9 March 2006 interview.
6. **Claims 1, 3, 4, 7, 8, 16, and 17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Balint (USPN 3544525) in view of Bonner (US 20050056961). **As to Claim 1**, Balint teaches a method for processing PET polymers into pellets using an apparatus including an underwater pelletizer and dryer (Fig. 1) which comprises:
- extruding strands of PET through a die plate into an underwater pelletizer (3:71-4:57);
- cutting the strands into pellets in a cutting chamber of the pelletizer (4:50-55 and Fig. 1, Item 15a);

transporting the pellets out of the pelletizer to a dryer using a water stream (4:55-57), the pellets retaining sufficient heat to initiate crystallization of the polymer (5:57-6:60, 1:15-29, 2:6-12).

Balint is silent to the high velocity gas stream injected into the water and pellet slurry to generate a water vapor mist and enhance speed. However, in this regard, Balint clearly suggests a high velocity stream (4:55-57) in order to minimize the contact time with the quench medium (2:7-12) so as to retain the maximum amount of heat possible (1:23), providing an average pellet temperature that does not drop below 130 degrees C (6:3-6). Bonner provides a high velocity gas stream injected into the water and pellet slurry to generate a water vapor mist (Fig. 3, see “Air” and paragraph [0020]). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Bonner into that of Balint a) in order to increase the velocity of the pellets, which Balint would clearly find desirable (4:55-57, 2:7-12, 1:23, 6:3-6); b) in order to keep the pellet temperature as high as possible to produce greater heat savings by avoiding the energy penalty for cooling the pellets and subsequently reheating (Bonner, paragraph [0023]); and c) because Balint suggests that a moisture/gas mixture accelerates crystallization, which Bonner provides (paragraph [0020]). **As to Claims 3 and 4**, Balint clearly suggests the claimed temperatures by stating that the “average temperature of the pellets does not drop below” 130 degrees C (6:5-7). See also (6:21-34). **As to Claims 7 and 8**, Bonner clearly teaches pressurized air injected substantially in alignment with the water and pellet slurry (Fig. 3, “Air”). **As to Claim 16**, Balint teaches a method for processing high-temperature crystallizing polymeric materials into pellets comprising:

extruding a crystallizing polymeric material into strands;

cutting the extruded strands into pellets in a water stream (Fig. 1, Item 15a); and transporting the pellets using in the water stream as a water and pellet slurry such that the pellets retain sufficient heat for crystallization of the polymeric material without the application of external heat.

Balint is silent to injecting an inert gas into the water and pellet slurry. However, in this regard, Balint clearly suggests a high velocity stream (4:55-57) in order to minimize the contact time with the quench medium (2:7-12) so as to retain the maximum amount of heat possible (1:23), providing an average pellet temperature that does not drop below 130 degrees C (6:3-6). Bonner provides a high velocity gas stream injected into the water and pellet slurry (Fig. 3 and paragraph [0020]). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Bonner into that of Balint a) in order to increase the velocity of the pellets, which Balint would clearly find desirable (4:55-57, 2:7-12, 1:23, 6:3-6); b) in order to keep the pellet temperature as high as possible to produce greater heat savings by avoiding the energy penalty for cooling the pellets and subsequently reheating (Bonner, paragraph [0023]); and c) because Balint suggests that a moisture/gas mixture accelerates crystallization, which Bonner provides (paragraph [0020]). **As to Claim 17**, Balint teaches PET (3:39-40). **As to Claims 18, 20 and 21**, Balint clearly suggests that the speed of movement of pellets through the apparatus represents a result-effective variable in order to minimize the time required to transfer the pellets to the crystallization zone (6:1-14). Therefore, in the combined method, one of ordinary skill would have found it prima facie obvious to optimize the flow rate of the air or inert gas of Bonner and minimize the length of time to transport the pellet to the dryer exit in order to maintain the average temperature in the

crystallization range (6:1-14). **As to Claim 19**, the Examiner recognizes that all of the claimed effects and physical properties are not positively stated by the reference. Note however that the references teach all of the claimed ingredients, process steps, and process conditions, and thus the claimed effects and physical properties would implicitly be achieved by carrying out the process steps of the combined method. If it is Applicant's position that this would not be the case: (1) evidence would need to be presented to support Applicant's position, and (2) it would be the Examiner's position that the application contains inadequate disclosure in that there is no teaching as to how to obtain the claimed effects by carrying out only these steps. **As to Claim 22**, Balint teaches the same high temperature crystallizing polyethylene terephthalates as disclosed in the instant application. These pellets are cooled in a water stream (Fig. 1). **As to Claim 23**, Balint does not provide additional heat between the step of pelletizing and exiting the dryer (Fig. 1, Items 5 and 9), and Bonner redundantly teaches this aspect, namely that the air (Fig. 3) is not disclosed as being heated, and the dryer may be of the centrifugal dewatering type (paragraph [0020]), which are unheated. **As to Claim 24**, Balint teaches a method for processing polyethylene terephthalate polymers into crystallized pellets using an apparatus having an underwater pelletizer and a centrifugal dryer (Fig. 1, Items 5 and 9 and 4:70-75), the method comprising:

- cutting PET strands into pellets in an underwater pelletizer (Fig. 1, Items 5, 15a); and
- transporting the pellets out of the pelletizer as a water and pellet slurry (Fig. 1, Item 7);

a centrifugal dryer located downstream (4:70-75), and the pellets exiting the dryer with sufficient internal heat for crystallization (columns 5 and 6). Balint is silent to introducing a high velocity inert gas into the water and pellet slurry. However, in this regard, Balint clearly suggests a high

velocity stream (4:55-57) in order to minimize the contact time with the quench medium (2:7-12) so as to retain the maximum amount of heat possible (1:23), providing an average pellet temperature that does not drop below 130 degrees C (6:3-6). Bonner provides a high velocity inert gas stream injected into the water and pellet slurry (Fig. 3 and paragraph [0020]). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Bonner into that of Balint a) in order to increase the velocity of the pellets, which Balint would clearly find desirable (4:55-57, 2:7-12, 1:23, 6:3-6); b) in order to keep the pellet temperature as high as possible to produce greater heat savings by avoiding the energy penalty for cooling the pellets and subsequently reheating (Bonner, paragraph [0023]); and c) because Balint suggests that a moisture/gas mixture accelerates crystallization, which Bonner provides (paragraph [0020]).

As to Claims 25 and 26, Balint clearly suggests that the speed of movement of pellets through the apparatus represents a result-effective variable in order to minimize the time required to transfer the pellets to the crystallization zone (6:1-14). Therefore, in the combined method, one of ordinary skill would have found it prima facie obvious to optimize the flow rate of the air or inert gas of Bonner and minimize the length of time to transport the pellet to the dryer exit in order to maintain the average temperature in the crystallization range (6:1-14). **As to Claim 27**, the Examiner recognizes that all of the claimed effects and physical properties are not positively stated by the reference. Note however that the references teach all of the claimed ingredients, process steps, and process conditions, and thus the claimed effects and physical properties would implicitly be achieved by carrying out the process steps of the combined method. If it is Applicant's position that this would not be the case: (1) evidence would need to be presented to

support Applicant's position, and (2) it would be the Examiner's position that the application contains inadequate disclosure in that there is no teaching as to how to obtain the claimed effects by carrying out only these steps. **As to Claim 28**, Balint does not provide additional heat between the step of pelletizing and exiting the dryer (Fig. 1, Items 5 and 9), and Bonner redundantly teaches this aspect, namely that the air (Fig. 3) is not disclosed as being heated, and the dryer may be of the centrifugal dewatering type (paragraph [0020]), which are unheated.

7. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Balint (USPN 3544525) in view of Bonner (US 20050056961), and further in view of Stouffer (USPN 5633018). Balint and Bonner teach the subject matter of Claim 1 above under 35 USC 103(a). **As to Claim 2**, Balint appears to be silent to the insulating container. However, Stouffer teaches this aspect (5:24-39). It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the method of Stouffer into that of Balint and Bonner in order to eliminate unnecessary equipment and additional heating costs, which would have obviously been desirable. In particular, Stouffer teaches that length heat treatments and annealing steps add time and expense to the overall process (1:66-2:6).

8. **Claims 5 and 6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Balint (USPN 3544525) in view of Bonner (US 20050056961), and further in view of Hunke (USPN 4632752), Kando (USPN 5607700), and Mizuguchi (USPN 5895617). Balint and Bonner teach the subject matter of Claim 1 above under 35 USC 103(a). **As to Claims 5 and 6**, the claimed limitation appears to be drawn to an apparatus limitation which does not materially affect the

result of the claimed process (See Applicant's specification, page 14 top), and therefore should not be given patentable weight.

However, in the alternative, Balint and Bonner are silent to a straight slurry line having an angle upwardly from vertical of 30 to 60 degrees, or 45 degrees.

Hunke teaches that the air current and the angle of the entrance into the dryer contribute to the drying effect (2:13-46 and Fig. 3).

Kando additionally teaches that one of ordinary skill provides an installation angle (2:25-31) in order to satisfy a keen demand for a pelletizing machine which is compact in size (1:44-46) and provides an efficient use of space (3:22-24).

Mizuguchi teaches that a dewatering device may be situated above pellet silos (4:7-23), which allows the pellets to fall down through classifiers naturally due to their own weight.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to provide an angled slurry line of an upward angle of 45 degrees in order to provide an efficient use of space, to allow the pellets to naturally fall down through classifiers, or to improve the drying effect. Therefore, it would have been prima facie obvious to one of ordinary skill in the art at the time of the invention to incorporate the methods of Hunke, Kando, and Mizuguchi into that of Balint and Bonner in order to provide efficient use of space, natural classification by gravity, and efficient drying action.

Response to Arguments

Applicant's arguments with respect to claims 1-8 and 16-23 have been considered but are moot in view of the new ground(s) of rejection. In accordance with the agreement reached during the interview held 9 March 2006, rejections over Krchma have been withdrawn.

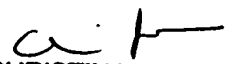
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Daniels whose telephone number is (571) 272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MJD 5/22/06



CHRISTINA JOHNSON
PRIMARY EXAMINER
5/25/06